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Agent's reference: 05-435-B

**IN THE UNITED STATES RECEIVING OFFICE (RO/US)**

In re Application of: )  
 )  
 Chang Yoon JUNG ) Group Art Unit: TBA  
 )  
 Serial No.: 10/560,149 ) Examiner: TBA  
 )  
 Filed: December 9, 2005 )  
 )  
 For: Method of Designing a Micro-BTS )  
 )

**TRANSMITTAL LETTER**

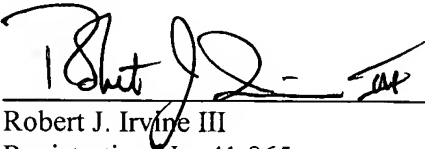
Mail Stop PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sirs:

In regard to the above-identified application we are transmitting herewith the attached:

- 1) International Preliminary Report on Patentability.
- 2) **CERTIFICATE OF MAILING BY "EXPRESS MAIL" UNDER 37 CFR § 1.10:** The undersigned hereby certifies that this Transmittal Letter and the paper, as described hereinabove, are being deposited with the United States Postal Service with sufficient postage as "Express Mail Post Office to Addressee" in an envelope addressed to: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia, 22313-1450, on this 27th day of February, 2006, Express Mail No. **EV757106405US**.

Respectfully submitted,

By   
Robert J. Irvine III  
Registration No. 41,865  
Attorney for the Applicant(s)

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FE241489	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/KR2004/001857	International filing date ( <i>day/month/year</i> ) 23 July 2004 (23.07.2004)	Priority date ( <i>day/month/year</i> ) 24 July 2003 (24.07.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant UTStarcom Korea Limited		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 30 January 2006 (30.01.2006)
Facsimile No. +41 22 740 14 35	Authorized officer  <div style="text-align: center; font-weight: bold;">Philippe Becamel</div> Telephone No. +41 22 338 70 90

COPY FOR IB

PATENT COOPERATION TREATY

REC'D 23 NOV 2004

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From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

YOON, Jee Hong

Hannuri Bldg. 219 Naeja-dong, Chongno-gu, Seoul 110-053,  
Republic of Korea

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 10 NOVEMBER 2004 (10.11.2004)

Applicant's or agent's file reference  
FE241489

FOR FURTHER ACTION

See paragraph 2 below

International application No.  
**PCT/KR2004/001857**

International filing date (day/month/year)  
**23 JULY 2004 (23.07.2004)**

Priority date(day/month/year)  
24 JULY 2003 (24.07.2003)

International Patent Classification (IPC) or both national classification and IPC  
**IPC7 H04Q 7/30**

Applicant

**UTStarcom Korea Limited et al.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.  
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



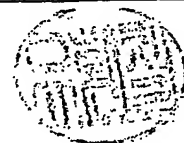
Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

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Authorized officer

YOU, Hwan Cheol

Telephone No. 82-42-481-5743



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2004/001857

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001857

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	<u>1-3</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-3</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-3</u>	YES
	Claims		NO

**2. Citations and explanations :**

Reference is made to the following documents

D1: KR 1999-0000336 A

D2: KR 2002-0044729 A

D3: KR 2003-0028223 A

D4: US 6122527 A

The claim 1 of the present invention discloses a method of designing a micro-Base Transceiver Subsystem(BTS) of a CDMA system, including at least one channel card, intermediate frequency(IF) board, BTS control board, a digital combiner in a forward path of the BTS, a switching logic in a reverse path of the BTS, and a main board, said method comprising the step of embedding the digital combiner and the switching logic in the main board, wherein said main board acts as a backplane

D1 and D2 are the closest documents related with the present invention among the documents D1-D4.

D1 relates to a control board for a cordless base station using PLD(Program Logic Device) is provided to perform an improvement of a board function easily by managing each board separately through packaging a main board, a PLD board, and a cordless board at a mother board.

D2 relates to an interworking apparatus and method between a channel card and an IF board in a base station is provided to improve economic efficiency by embodying the interworking from a plurality of channel cards to the IF board

Neither D1 nor D2 provides a method of comprising the step of embedding the digital combiner and the switching logic in the main board, designing a micro-Base Transceiver Subsystem(BTS) of a CDMA system,

Therefore the present application claim 1 seems to be novel(Article 33(2) PCT), and involve an inventive step and meet the requirement of Article 33(3) PCT. The claims 2-3 of the present invention also comply with Article 33(2) and (3) PCT as they are dependent claims.

The industrial applicability of the Claims 1-3 is self-evident in the sense of Article 33(4) PCT.